

## Socio-economic and dietary associations of eating out of home in Vietnamese adolescents

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As low and middle income countries such as Vietnam experience rapid development, dietary patterns of vast segments of their population are changing as well. Although  
15 undernutrition and deficiencies are still omnipresent, various studies have documented how diet related chronic diseases are on the rise, in particular in its urban areas<sup>1</sup>. Adolescence is known to be a period where dietary and lifestyle habits consolidate. Since adolescents make up a large share of the population in low and middle income countries, they are a key target group for nutrition promotion interventions that aim to reduce risk  
20 factors of diet-related non-communicable diseases<sup>2</sup>.

An important development in industrialized countries has been the increase in eating out of home. Studies mainly from the USA and Europe have documented how substantial eating out is associated with lower intakes of fruit and vegetables<sup>3</sup> and with a higher  
25 energy intake<sup>4</sup>. The nutritional importance of out of home eating in countries dealing with both under and over nutrition has been poorly studied. We carried out a survey in a sample of Vietnamese adolescents to explore the importance of eating out and to evaluate which socio-economic factors are associated to it.

30 In our sample of 16 year old Vietnamese children from rural (Hanam Province) and urban (Hanoi), food prepared out of home provided 42% of fruits and vegetables and 21% of

energy per day<sup>5</sup>. There were differential dietary intakes between gender and this varied according to location. On a daily basis, urban adolescents consumed more fruit and vegetables compared to their rural peers ( $320.0 \pm 38.4$  g vs  $523.0 \pm 38.4$  g). The contribution of foods prepared out of home to the average daily intake of fruits and vegetables was consistently higher in urban areas ( $29.5 \pm 4.0\%$  of the total intake vs  $54.1 \pm 4.0\%$  of the total intake per day in rural areas). Independent of household wealth, being female, living in urban areas and the amount of pocket money that the children received from their parents were positively associated with the energy contribution of food prepared out of home in their daily diet. Foods prepared out of home were mainly consumed for breakfast and as snacks and contributed for more than half (57%) of the energy consumed during breakfast and 73% of the energy provided as snacks. In both rural and urban areas however, eating out of home also associated with higher consumption of energy from fat and intake of sweets and soft drinks.

Food prepared out of home are clearly and important part of the diet of Vietnamese adolescents. In rural areas, foods prepared OH were different from those in urban areas. Their composition positively contributed to the intake of micronutrients of high consumers. Fruit and noodle soups, characterized by their low energy density, were relatively more important as foods prepared out of home in urban areas. This difference in meals consumed might explain why participants consuming a greater proportion of foods prepared out of home, consumed more energy from fat but had a lower energy dense diet.

## References

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